8 September 2003

Mr. Steve Faryan,
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

TDD: 0106-005
Document Control No.:

Re: Review comments on the Removal Action Plan for Area 1 and 2.
The Lockformer Company, Lisle, Illinois

Dear Mr. Faryan:

Weston Solutions, Inc. (WESTON®) is pleased to submit the review comments on the July 2003 Removal Action Plan for Area 1 and 2. Clayton Group Services prepared the Design Plans. The review comments for the revised Remedial Action Plan is provided below.

GENERAL COMMENTS

WESTON concurs with technical comments compiled by Parson's on behalf of the IEPA. In addition, we offer the following observations and comments.

SPECIFIC COMMENTS

Section 2.1.1, Additional Data Development: Boring log data for the additional drilling which took place is referenced in this section and contained in Appendix A. However, a boring log for CSB-1852 could not be found in Appendix A. Additionally, it appears that the second page of boring log CSB-1851 is also missing from the document.

The narrative indicates that groundwater sample data from borings is contained on figures referenced in the section. The report should also contain a tabulated data summary table and/or laboratory data sheets in an appendix in addition to portraying analytical data on figures.

It is not clear in the discussion and figures associated with this section, where the soil and groundwater samples were collected and which general formations and media they represent. For example, the boring log for CSB-1850 appears to indicate that soil samples were collected from a depth of 16 to 18 feet and 22 to 24 feet. Based on the discussion and associated figures, the shallow sample was interpreted to represent the mass waste unit and the deeper soil sample was interpreted to represent the top of the lower clay unit. This does not correlate well with data presented on cross-section A-A' boring CSB-1844 (only 40 feet to the south). According to the cross-section, the top of the lower clay unit (depicted as a clayey silt in this area) lies at a depth of approximately 31 feet.

Additionally, according to the boring log for CSB-1850 (the only complete one provided), saturated conditions were not encountered until 28 feet bgs. The text also states that this is the zone that was sampled in CSB-1851 and CSB-1852. It is not clear from the text or figures whether this saturation represents the mass waste unit or a lower saturated unit.

Section 2.1.2, Additional Data Analysis and Interpretation: It is stated in the discussion of cross section A-A' that the mass waste unit sand and gravel are unsaturated along the line of this section. However, a water table elevation is depicted at an approximate elevation of 655 on the cross-section (Figure 2.1-6), which according to the legend represents the mass waste unit water table. This appears in contrast to data presented on the mass waste unit potentiometric surface map (Figure 2.1-8) that shows contours perpendicular to the line of section inferring the presence of a water table surface in this area. Additionally, potentiometric surface contour lines on Figure 2.1-8 are approximately 1.5 feet lower in elevation than that portrayed on the cross section. While it is recognized that the top of the lower clay represents an undulating surface, the maps and data presented appear to indicate that saturation is present over a large area extending to the north and west. The presence/absence and thickness of shallow groundwater within the mass waste unit will require further evaluation and presentation of the available data, as it will impact the design of the shallow groundwater remedial action in Areas 1 and 2.

Sufficient data may be available to develop a map(s) depicting the contoured upper surface of the lower clay unit overlain with the mass waste unit water table. Isopach maps showing the thickness of the lower clay unit would also be helpful in evaluating the ability of the unit to act as a continuous lower confining boundary across the site. Additionally, a map of this type will show gaps where the lower till is not present and a direct hydraulic connection may be present between saturated mass waste unit deposits and the lower sand/bedrock aquifer (for example as shown in the vicinity of CSB-1840/MW-1122 in cross-section A-A').

Section 2.2.1.2, Tier 2 Calculation Methodology

Modifying the RBCA R26 equation by adding a retardation factor changes this to a Tier 3 evaluation.

Section 2.2.1.2.1, page 9

All chemical and physical parameters used in the development of soil remediation objectives need to be presented in the document. Site-specific parameters that are not presented, and need to be included, are: Sw (source width perpendicular to groundwater flow direction in horizontal plane) and X (distance along the centerline of the groundwater plume emanating from a source).

The accuracy of the proposed SROs cannot be checked since all input parameters and all calculations were not provided.

2.2.1.2.2, page 10

The calculations for determining weighted average concentrations of noncarcinogens need to be presented. Also, cis-1,2-dichloroethene and trans-1,2-dichloroethene effect the circulatory system not the central nervous system.

According to 35 IAC 620.615 mixtures of similar-acting chemicals must be considered for the point of human exposure for Class I groundwater. Thus, the cumulative effects of carcinogens must be considered for Tier 1 and Tier 2 evaluations [also see 35 IAC 742.505(b)], and need to be considered in the development of SROs for the soil component of GWRO.

Figures 2.1-6 and 2.1-7, Cross-Sections: The legends on these figures should contain an explanation of what distinguishes the colors used (blue and red) for analytical results throughout the figures. Also indicate the units used (ug/L) for groundwater sample results.

The potentiometric surface line depicted (approximate elevation 655) in cross-section A-A' appears to have been developed using water level data from wells MW-1110S, MW-1122, and MW-1108S; however, these appear to be screened in the lower sand/bedrock unit, whereas the text appears to use this 655 elevation line in the context of a mass waste unit water table. Note that the legend indicates the depicted line as the mass waste unit water table.

Section 3.3, Groundwater Containment: While a substantial body of data exists regarding the elevation of the upper surface of the lower clay unit, the current conceptual model of the site identifies this as an undulating surface with elevation lows and highs (mounds and troughs). This undulating surface in relation to the apparent water table elevation in the mass waste unit results in unsaturated areas, pools, and variable flow patterns (described as bifurcated in one area). Based on these physical characteristics, there is a concern that groundwater recovery using a limited number of extraction wells may not provide adequate containment at the property boundary. This uncertainty combined with a low saturation thickness leads to a potential that contaminants may migrate laterally offsite through unknown channels or flow pathways not currently mapped. Existing data should be re-evaluated to determine the configuration of the upper surface and thickness of the lower clay unit with a reasonable degree of certainty and its relation to saturation conditions within the mass waste unit. Additional demonstration will be required to show that placement of the five wells will result in adequate and consistent capture of contaminated groundwater.

The groundwater containment has only evaluated pump and treat technology, however other technologies such as deep collection trench and slurry wall are potentially feasible technology that must be evaluated.

Section 3.3.2, Overall Protection of Human Health and the Environment: As indicated in the comment above, There is sufficient uncertainty with the current groundwater containment system under evaluation (extraction wells), that it cannot be stated conclusively that containment will be

achieved at all locations along the Area 2 property boundary. Therefore, it is premature to state that the remedial alternative will be protective of human health and the environment wit

Should you have any questions or require additional information, please feel free to contact me.

Very truly yours,

Weston Solutions Inc.

Omprakash S. Patel
Senior Project Manager